EXHIBIT D

IN THE UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF NEW YORK

IN RE:
Methyl Tertiary Butyl Ether ("MTBE") Products Liability Litigation :MDL NO. 1358 (SAS)

In Re:
City of New York

CONFIDENTIAL (Per 2004 MDL 1358 Order)

April 6, 2009

Videotaped Deposition of DAVID B. TERRY, P.G., held in the law offices of McDermott, Will & Emery, 340 Madison Avenue in New York, New York, beginning at approximately 9:14 a.m., before Ann V. Kaufmann, a Registered Professional Reporter, Certified Realtime Reporter, Approved Reporter of the U.S. District Court, and a Notary Public.

GOLKOW TECHNOLOGIES, INC.
877.370.3377 ph|917.591.5672 fax
deps@golkow.com

Figure 3?
A. That's correct.
Q. And Figure 3 is an illustration of the plume?
A. It is a contour map of MTBE concentrations from points that we identified in the model domain.
Q. And this is an illustration showing the concentrations of MTBE as of 2004?
A. Correct.
Q. With respect to the delineation on Figure 3, it was generated using what computer program?
A. This was done in Arc9, ArcGIS 9.
Q. ArcGIS 9?
A. Uh-huh.
Q. And that was performed by whom?
A. That was performed with my oversight and with our GIS -- one of our GIS specialists. As I believe I named on the team before, Zach Tyczka actually

manipulated the computer to create these.
Q. And with respect to the plume delineation on Figure 3, did anyone for LBG go back and look at the site-specific data for each of the service stations illustrated on Figure 3 and identify it as a proximal source to determine if the plume illustrated on Figure 3 represented the conditions observed in the field in 2004?
A. No.
Q. With regard to the 17 service station sites identified under the heading "Source Proximal Conditions" in Table 2, how many of them have active remediation ongoing in 2004?
A. I don't know that.
Q. With respect to the service station sites identified under the heading "Source Proximal Conditions" do you know for each of those stations did someone on your staff determine the mass that may have been removed by

remediation actively being pursued at the site?
A. No.
Q. With regard to the concentration that was selected as the mass concentration, did someone check to see if the mass -- pardon me, the maximum concentration was observed in a perched water condition?
A. I don't believe so, no.
Q. Do you know at any of these sites identified in Table No. 2 how many of them have perched water?
A. I don't know that.
Q. With respect to the sites identified in Table No. 2, can you state an opinion to a reasonable degree of scientific or engineering certainty as to how many of these sites that you've selected the maximum value is reflective of actual MTBE present in the aquifer as opposed to in a perched water system?
A. Well, I don't know if any of these were in perched water systems.

Q. Fair to say that you can't tell us with any reasonable degree of scientific or engineering certainty which one of these maximum values are in the aquifer as opposed to a perched water system? Is that a fair statement?
A. As I sit here today, I cannot do that.
Q. With respect to the analysis that you performed in this case, did your staff review the soil borings for each one of the service stations to determine whether there was any localized clay lens beneath the station?
A. I don't believe so, no.
Q. With regard to your professional experience, do you have experience in investigating service station sites in the Borough of Queens?
A. Not in the Borough of Queens, no.
Q. Do you have experience in

Page 138

small universes of data with less than 20 data points?
A. There may be.
Q. Do you know if the R-squared calculation you performed here is generally accepted by statisticians for small universe calculations?
A. I don't know.
Q. With regard to the analysis that you did in this case, apart from looking at these points, were there any other points, any other data points, which were looked at for calibration purposes for the MT3D model between 2004 to 2008 other than those identified in Exhibit No. 3?
A. I don't believe so. Most of the other points that we wanted to or we considered looking at didn't have sufficient data to do this.
Q. And who made the determination it didn't have sufficient data?
A. Well, we had a table of

Page 139

data. Our team decided that.
Q. And the table of data, did you review the data for each one of these sites to determine whether or not it was appropriate to use them?
A. I have seen this table of data. I reviewed it, yes.
Q. And the table of data that you have seen, it's an Excel spreadsheet?
A. I believe so.
Q. And there's an Excel spreadsheet for every service station site?
A. I can't recall.
Q. With respect to the analysis that was performed, what number of observations or data points was considered to be adequate?
A. Well, there are some on here where we just have two observations.
Q. And I'm saying -- let's go back. You are looking at all 17 of the

Page 140

service station sites on Figure 2. How many data points in 2008 were considered to be adequate for purposes of calibration?
A. I don't know that.
Q. What criteria were used to determine whether you had adequate number of observations in 2008 to calibrate the model?
A. We were just looking for the universe of data we had available in our database.
Q. And with respect to the universe of data in your database, what method did you use to determine whether you had an adequate number of data points?
A. Well, the points that we're showing here, we had at least two observations, so we tried to include those. But if we just had one observation in that period, that was not sufficient.
Q. One observation in which

Page 141

period, 2008?
A. 2004-2008 period.
Q. And if there were multiple observations, you would use them?
A. We would try to use them.
Q. And with respect to the actual Excel spreadsheet, is that something that was generated by the Connecticut office?
A. Yes.
Q. And the Connecticut office took all the data that was available from the service station files and laid them out in an Excel spreadsheet?
A. I don't know if it was done quite that way.
Q. Can you explain to us, as you sit here today, how the data was summarized for purposes of an analysis to determine if a station was an appropriate calibration target for calibrating the Analysis 1 for Station 6?
A. Well, we reviewed the data

Page 142

that we had in the database that we received for data between the 2004-2008 period. Where we had data available, we examined that data to see if there were multiple data points that we could use for calibration targets.

Q. When you say between 2004-2008, you are not saying for every year or you are saying for every year in that intervening period?

A. Any time within that interval.

Q. When you did the calibration target, the calibration targets that we're looking at here, we're looking at a predicted value using 2004 inputs and we're comparing it to observed values in 2008; correct?

A. No. We're comparing the modeled result to the actual result on the date that the actual result occurred or thereabouts.

Q. So we're taking the modeled result using 2004 data inputs and

Page 143

comparing it to observed condition in 2008 as of what date?

A. Well, there's multiple dates in -- throughout the 2004-2008 period.

Q. And how are those being aggregated statistically?

A. Well, they are just being taken from the model output.

Q. And with respect to the model output, did the model generate from the MT3D transport a value for the 2004 inputs for every year for the period 2004 to 2008?

A. I believe so.

Q. How many stress periods?

A. There was a stress period -- well, I guess -- I think 2004 to 2008 was really a single stress period with multiple steps inside of it.

Q. So as far as you understand --

A. I don't know. Let me back

Page 144

up on that. 2004-2008 is, I think, separate stress periods because we had different stresses, pumping stresses, during that period. Other times in the model there were longer than annual stress periods.

Q. And as far as you understand it, it was an annual stress period for this particular analysis?

A. Yes.

Q. Prior to your work on this case did you personally run the ATRANS model for analysis of fate and transport of MTBE?

A. I don't think that I have used it for MTBE before.

Q. What applications, if any, have you used ATRANS for?

A. Just generally getting an understanding of the timing and concentration of contaminant movement along a flow path.

Q. Is the ATRANS model a deterministic model?

Page 145

A. Yes.

Q. Is the ATRANS model a screening model?

A. It could be used that way, sure.

Q. And with respect to the ATRANS model, what version did you run in this case?

A. I don't remember the exact number.

Q. With respect to the ATRANS model that you ran in this case, can you describe for us the source of the ATRANS modeling files you used?

A. Source of the modeling files would have come from S. S. Papadopulos.

Q. Did you buy it or download it?

A. Download it.

Q. And with respect the download of the files, do you know which version it was that you downloaded that's on the web?

Page 146

A. I'm sure we know what version; I just -- sitting here I don't know off the top of my head.
Q. And with respect to the ATRANS analyses that were run in this case, how many did you run personally?
A. Well, I mean, I ran some analyses while we were developing our approach to the case, and then ultimately the files themselves were executed by one of my staff members.
Q. With regard to the ATRANS modeling for each of the service station sites for which ATRANS modeling was performed, were those model runs executed by yourself or someone on your staff?
A. Someone -- I believe, if I understand the question correctly, the final runs were executed by someone on my staff.
Q. You did some ATRANS modeling in an effort to determine what approach should be used for this case?

Page 147

A. Right.
Q. And the final executed runs that were performed for the service stations for which ATRANS modeling was conducted, they were actually run by which person or persons on your staff?
A. Well, Zach Tyczka did a lot of that, those runs.
Q. And with respect to the MT3D model, prior to your work on this case, have you personally run MT3D to model for fate and transport of MTBE?
A. Not for MTBE, no.
Q. Have you any experience in running the MT3D model to model the fate and transport of any contaminants?
A. Yes.
Q. What contaminant?
A. Chlorinated solvents, primarily, and some hydrocarbons, also.
Q. Which hydrocarbons?
A. Benzene, the BTEX-related compounds.
Q. Prior to your work on this

Page 148

case have you ever run Groundwater Vistas to perform any modeling for MTBE?
A. No.
Q. Prior to your work on this case have you ever used a BIOSCREEN model from S. S. Papadopulos to do a fate and transport analysis for MTBE?
A. For MTBE, no, I have not.
Q. Have you ever used BIOSCREEN prior to your work on this case for any purpose?
A. Yes.
Q. And what purposes have you used BIOSCREEN?
A. Just in investigating a hydrocarbon site to get a handle on fate and transport issues.
Q. With respect to your professional work, have you been retained as a consultant to testify in litigation in which you have not been deposed but have performed work analyzing the fate and transport of MTBE in groundwater?

Page 149

A. I don't think I understand that question.
Q. You testified previously there are some instances, two, where you have been identified as a consultant or expert and testified in a deposition; am I correct?
A. Correct, yes.
Q. With respect to your professional work, apart from those two instances, are there other instances where you have been retained as a consultant to testify about the fate and transport of MTBE in groundwater but weren't deposed or didn't testify at trial?
A. Where I was in -- now, if I understand the question, you are saying that I was retained to ultimately testify but then did not testify. Is that the question?
Q. Correct.
A. Yeah. No, I have not.
Q. Prior to your work on this

Page 150

case, have you ever been retained in any other litigation matter to testify about the fate and transport of MTBE in groundwater?
A. No.
Q. Prior to your work on this case, have you ever been retained in any consultancy to analyze the fate and transport of MTBE in groundwater?
A. Yes.
Q. In which cases or incidents?
A. Well, there's a number of them. A lot of gasoline station work involves MTBE fate and transport, so a number of clients that we've had that have gasoline tank leaks, MTBE has been a component of them. So in some of those cases we've used a fate and transport model to determine the likely scope of the contamination extent in groundwater.
Q. And with regard to those instances where you've been retained to

Page 151

do fate and transport modeling, was that for purposes of undertaking remedial design?
A. Sometimes.
Q. Was it for purposes of conducting fate and transport modeling of MTBE to determine whether there would be impacts to nearby sensitive receptors?
A. Sometimes.
Q. And are there other instances where you've done fate and transport modeling of MTBE in groundwater in support of risk-based closure of sites?
A. No, generally not for risk-based.
Q. With respect to site closure, have you done any fate and transport modeling to support site closure for service station sites for your clients?
A. "To support site closure," not exactly sure what you mean by that.

Page 152

Q. Have you sought a "no further action" letter or anything similar and supported that with any fate and transport modeling of MTBE in groundwater?
A. No, I have not done that.
Q. With regard to your professional work, you indicate on page 2 of your report that you have performed groundwater transport in the Upper Glacial Aquifer?
A. Yes.
Q. Where have you performed groundwater contaminant transport numerical modeling assessments in the Upper Glacial Aquifer of Long Island?
A. That would be the Sag Harbor project I referenced earlier.
Q. And the contaminant of concern in Sag Harbor again? I apologize.
A. Those were chlorinated VOCs.
Q. And the chlorinated VOCs,

Page 153

were there dense non-aqueous phase liquids present?
A. Probably.
Q. And the CVOCs at that site included what parent compounds and what daughter compounds?
A. Primarily it was a PCE site, a tetrachloroethylene.
THE COURT REPORTER: I'm sorry?
THE WITNESS: Tetrachloro --
THE COURT REPORTER: No; the first part.
THE WITNESS: PCE.
BY MR. STACK:
Q. Have you ever performed any groundwater transport analysis of MTBE in the Upper Glacial Aquifer in Long Island prior to this case?
A. I'm sorry, I didn't hear the beginning of that.
Q. Yes, sir. Have you ever performed any groundwater transport analysis of MTBE in the Upper Glacial

Page 154

Aquifer in Long Island prior to your work on this case?
A. No, I have not.
Q. With respect to your report, it indicates you have supervised groundwater transport in the Upper Glacial Aquifer in Long Island. And what sites have you supervised? It says "He has performed and supervised."
A. No. What I intended to say there was that sometimes I do modeling myself and other times I supervise people who do modeling for our company. And one of the environments in which I did a model was in the Upper Glacial Aquifer of Long Island, as an example.
Q. And with respect to that site, that would be the Sag Harbor site?
A. That's correct.
Q. Have you ever supervised Leggette, Brashears & Graham personnel who have been performing groundwater contaminant transport numerical modeling assessments of MTBE in the Upper Glacial

Page 155

Aquifer of Long Island?
A. No, I have not.
Q. With respect to your professional work, what sites have you modeled MTBE in groundwater for your clients? And if you want to refer to your CV and that helps you, go right are ahead.
A. What sites? Well, there's -- I can't really -- I don't know if I can give you an exhaustive list of them, but at a number of gasoline station discharge sites that -- where we were working on behalf of the station operator or responsible party, we've and I have conducted analyses to predict or to establish what migration of MTBE from that site might look like.
Q. Are any of the service station sites where you have conducted modeling concerning migration of MTBE in groundwater identified in Attachment -- let me make sure I get it right -- Attachment A to your report,

Page 156

Exhibit No. 2, which is your CV?
A. I don't believe so. I mean, I don't -- I didn't intend to do that or it wasn't a separate section of this to identify such sites.
Q. Well, there is a section that says "Specific Experience in Environmental Contamination" --
A. Okay.
Q. -- on page 3?
A. Yes, there is.
Q. Are any of those projects service station sites where you have modeled MTBE in groundwater?
A. Well, on -- there's at least one here on page 5.
Q. Page 4?
A. I was looking at page 5.
Q. Page 5?
A. Where it says "Ridgewood, New Jersey."
Q. And in Ridgewood, New Jersey, is that the notation, third one down, that says "Conducted an assessment

Page 157

of the impact of gasoline additive MTBE on public water supply well completed in fractured bedrock aquifer"? Is that it?
A. That's correct.
Q. And in that particular case that was approximately when when you did the analysis?
A. Well, we did analyses during multiple spills at this location during the time we were working on it, so I would say it ranged between the mid-'90s, probably, to around 2000 or 2001, something in that time frame.
Q. And with respect to the modeling that you performed in Ridgewood, New Jersey, for MTBE, who was the client for Leggette, Brashears?
A. Ridgewood, the Village of Ridgewood, New Jersey.
Q. And with respect to the site where MTBE was released, was that a service station site?
A. Yes, it was.
Q. And who operated the

aquifer primarily or was it some other kind of aquifer?
A. It's a glacial aquifer.
Q. And by "glacial" you mean unconsolidated materials, primarily?
A. It is.
Q. And with regard to the release, how much was released into the environment?
A. I can't remember the exact volume, but it was sort of a catastrophic, fairly substantial volume release.
Q. And the release volume, was that something that resulted in non-aqueous phase liquids being present on the sites?
A. Yes, it was.
Q. Did you know the precise date of the release?
A. I believe that the date was known within a relatively small time frame.
Q. Did Leggette, Brashears &

Graham conduct site investigation?
A. Yes, we did.
Q. Did Leggette, Brashears also conduct a site remediation?
A. Yes, we did.
Q. As part of your site evaluation, did you assess potential impacts to off-site sensitive receptors?
A. Not specifically.
Q. With respect to the work in Wareham, Massachusetts, was there any Leggette, Brashears & Graham employee engaged in that project who was a licensed site professional?
A. No, there was not.
Q. Was there a licensed site professional working with LBG?
A. No. This was prior to the licensed state professional law.
Q. And with respect to this release, it occurred approximately when?
A. It was in the 1990s; I just -- I can't recall the specific date.

Q. With respect to the model that you used in that case, can you recall what kind of model you used?
A. We used a two-dimensional flow model. And I'm trying to remember now whether it was MODFLOW or PLASM or another -- I can't remember the specific model that we used sitting here.
Q. Prior to your work on this case have you ever utilized any numerical models like MT3D to predict the impact of MTBE on public water supply wells?
A. No.
Q. With respect to your professional work, had you had occasion to work for Leggette, Brashears & Graham clients who were service station owners or operators and had releases and you conducted groundwater modeling for their purposes?
A. Well, we definitely have done groundwater modeling in cases like that. When you said "for their

purposes," I'm not exactly sure --
Q. For whatever the purpose may be.
A. Sure.
Q. I didn't want to sit and enumerate and bore you.
A. Okay.
Q. What companies have you performed groundwater modeling for MTBE at service station or fuel storage release sites?
A. You just said MTBE, and I'm not sure if you had said MTBE in the previous question or not.
Q. I'm asking now specifically --
A. Oh, now specifically --
Q. -- trying to narrow the universe for you.
A. I just want to make sure I follow you.
Q. Okay.
A. Yeah; not for MTBE, I don't believe so, no.

Page 190

what type of meetings, as best you recall?
A. Okay. They were sort of status meetings, update meetings, on the activities that were being taken by the consultants for Northville to investigate the extent of the massive contamination there.
Q. And did you as part of your work confer with and work with other LBG personnel?
A. I reported to a Robert Lamonica at my firm, who was the principal contact between my firm and Suffolk County Water Authority.
Q. And with respect to Mr. Lamonica, was he officed in the same facility as you at that time?
A. No. He was in Wilton, Connecticut, at the time.
Q. In the course of your professional work have you ever had any occasion to undertake a service station site remediation project where you have

Page 191

supervised people using the accelerated response program of the New York DEC?
A. No.
Q. Okay. Prior to your work on this case have you ever published any peer-reviewed articles in any scientific or technical journals regarding modeling of the fate and transport of MTBE using ATRANS?
A. No.
Q. Have you ever prior to your work on this case published any peer-reviewed articles in a scientific or technical journal regarding fate and transport of MTBE using MT3D?
A. I'm sorry, I -- you'll have to repeat that one.
Q. Prior to your work on this case have you ever published a peer-reviewed article in any scientific or technical journal regarding the fate and transport modeling of MTBE using the MT3D model?
A. No, I have not.

Page 192

Q. Prior to your work on this case have you ever published a peer-reviewed article in any scientific or technical journal regarding the biodegradation of MTBE in soil or groundwater?
A. No.
Q. Prior to your work in this case have you ever published a peer-reviewed article in any scientific or technical journal regarding the isotopic analysis of MTBE to assess its biodegradation in groundwater?
A. No.
Q. Are you familiar with isotopic analysis to assess biodegradation of MTBE?
A. Not intimately.
Q. Have you used it?
A. No.
Q. Prior to your work in this case, have you ever published a peer-reviewed article in any scientific or technical journal regarding the use of

Page 193

risk-based closure at sites where there were releases of MTBE?
A. I need the first part again of the question.
Q. Prior to your work in this case, have you ever published a peer-reviewed article in any scientific or technical journal regarding risk-based closure of sites with releases of gasoline including MTBE?
A. No.
Q. With respect to your professional work, have you ever published any articles in any peer-reviewed or scientific/technical journals regarding computation of the first-order decay rate for MTBE in groundwater?
A. No.
Q. Have you ever calculated a first-order decay rate for MTBE at any of the sites that you've worked on?
A. No.
Q. With respect to your

groundwater systems other than the previously referred to publication in 2005, monitored natural attenuation for MTBE sites through the EPA?

A. Yeah, I believe I have read some Wilson -- of Wilson's work. I don't know that I'd classify it as a review.

Q. When you say you read it, did you read it and apply it in this case?

A. No.

Q. Did you read and apply any of Dr. Weaver's work in this case?

A. I wouldn't say -- I don't think I'd say I applied it, no.

Q. With respect to your professional work, have you ever reviewed any of the peer-reviewed publications by Dr. Hanadi Rifai relative to biodegradation and decay of MTBE in groundwater systems?

A. No.

Q. With respect to your

professional work, have you ever reviewed any of the publications in peer-reviewed journals of Dr. Chuck Newell relative to biodegradation and decay of MTBE in groundwater systems?

A. No, I don't believe so.

Q. With respect to your professional work, do you make a distinction between biodegradation and decay of contaminants in the -- in their transport in groundwater systems?

A. Sure.

Q. And with regard to MTBE, do you make a distinction between its ability to biodegrade in groundwater systems as contrasted with the observation of its decay in transport in groundwater systems?

A. In other words, do I think that its observation of decay and its biodegradation are two different things?

Q. Correct.

A. Yes, I do.

Q. And with regard to your

professional work, have you had occasion at any of the sites where you've worked at where you've actually measured out the decay rate for MTBE in groundwater systems?

A. No.

Q. Do you know what decay rate is specified by the New Jersey DEP relative to MTBE in groundwater systems?

A. No. I don't think there is one.

Q. And with respect to the sites you've worked at, have you ever developed a decay rate for submittal to the DEP for and on behalf of your clients based on field data?

A. I'm not sure I understood the question. Can you repeat it?

Q. Have you ever utilized any generally accepted method, like the transect analysis method, to calculate or compute a first-order decay rate for MTBE in groundwater systems and use it to support a submittal on behalf of your

clients?

A. No.

MR. STACK: We have reached 12:30. I think it might be an appropriate time to take a break and segue to different subjects after we eat lunch.

THE WITNESS: Okay.

MR. STACK: I believe lunch may be here.

THE VIDEOGRAPHER: We are now going off the record. This is the end of Videotape No. 2. The time is 12:27.

(Luncheon recess from 12:27 p.m. to 1:27 p.m.)

(Mr. Garvey present in the deposition room.)

(Ms. Cooper left the telephone conference.)

THE VIDEOGRAPHER: We are now back on the record. This is the end -- this is the beginning of Videotape No. 3. The time is 1:27.

Page 258

goes into the groundwater system every two years and it is half thereafter?
A. Right.
Q. And with respect to the actual flux rate based on the groundwater flow and flow velocity, what was the flux rate that you calculated?
A. Well, the ATRANS, in order to generate a value to use for ATRANS, we had to make calculations to assign to the patch; and then as water passes through the patch, that defines the flux.
Q. And did you determine for each of these calculations what the flux rate was?
A. We determined what the patch concentration was.
Q. But did you actually go back and figure out what the flux rate was to determine whether it was reflective of actual conditions observed?
A. Well, this analysis uses

Page 259

predetermined mass amounts, so we're not using groundwater data from the site --
Q. Okay.
A. -- to do this analysis.
Q. And with regard to the next site down, s6-002, 1989, do you know in 1989 if there was a release of gasoline resulting in any MTBE mass being introduced into the subsurface at the service station identified as 84-02 Parsons Boulevard?
A. I believe this particular site was -- there was a transposition error in the table, so I'm not sure about the number 30. That's something we addressed in our rebuttal report.
Q. But my question is -- this is 1989 -- do you know what grade of gasoline was spilled at 84-02 Parsons Boulevard at a service station there when the spill report was provided to the New York DEC?
A. No, I do not.
Q. With respect to the spill

Page 260

that occurred in 1989 at 84-02 Parsons Boulevard, was it an above-ground spill?
A. It may have been.
Q. With respect to that spill, was it a customer drive-off?
A. I don't know.
Q. With respect to the release that occurred in 1989, do you have any information that's been made available to you that the grade of gasoline that was the subject of that spill report actually contained any MTBE?
A. I do not.
Q. With respect to the spill that occurred in 1990, do you have any information to indicate that the spill which was the subject of the spill report at 84-02 Parsons Boulevard in 1990 contained MTBE?
A. Well, all we know is that typical MTBE expected in gasoline at that time, but we don't have specific site information.
Q. And with respect to the

Page 261

typical amount, the typical amount in 1990 is what, according to the sources you looked at?
A. Well, we're assigning the value 2%.
Q. And the 2% is based on the EPA reports which have no field measurements of gasoline being distributed in Queens; correct?
A. It is based on the EPA report, that's true.
Q. With no field measurements of gasoline?
A. I don't believe there are field measurements to support it.
Q. And with respect to this particular station, do you know which grades in 1990 of gasoline sold at the service station located at 84-02 Parsons Boulevard actually contained MTBE?
A. Do I know which grades actually did contain it?
Q. Yes, sir.
A. No, I do not.

Q. Do you know which grade was spilled in 1990?
A. No, I do not.
Q. Did you understand that certain grades of gasoline distributed in New York prior to 1992 did not contain MTBE?
A. Prior to 1992?
Q. Yes, sir.
A. Certainly, yes.
Q. And with respect to the distribution product, did you also understand, based on your experience, that certain refiners had proprietary distribution systems and distributed their gasoline through their own system prior to 1992?
A. I don't know that.
Q. With regard to the service station at 93-05 168th Street, there are spills reported in 1989 and 1991. Do you know what grade of gasoline was spilled in 1989?
A. I do not know.

Q. Do you have any information to indicate whether the gasoline spilled in 1989 at 93-05 168th Street had MTBE?
A. I don't know. I don't have -- sitting here right now I do not know.
Q. With respect to the spill that occurred in 1991 at 93-59 183rd Street, do you know what grade of gasoline was spilled at that location?
A. No, I do not.
Q. With respect to that location, do you know whether every grade of gasoline at that service station contained MTBE?
A. I do not know that.
Q. With regard to the service station further down, I believe s6-05 (sic), 162-35 North Conduit, that is a 1990 spill. And that 1990 spill has three scenarios for the leakage, one of 50 gallons, one of 500, and one of 2,000 gallons; am I correct?
A. Are you looking at 015 or

05?
Q. s6-015. I apologize if I misspoke, Mr. Terry.
A. I see two there, yes.
Q. And one is in 1990?
A. Correct.
Q. And the one in 1990 you have simulations of a 50-, 500-, and a 2,000-gallon release?
A. I do.
Q. And you have MTBE mass loading into the ATRANS model ranging from 2.76 up to 110.20 kilograms of MTBE?
A. Yes.
Q. With respect to the gasoline that was released at 162-35 North Conduit Avenue in 1990, do you know what grade of gasoline that was?
A. No, I do not.
Q. Do you know with respect to the gasoline spilled at 162-35 North Conduit Avenue, if it contained MTBE when it was spilled in 1990?

A. I do not know that.
Q. With regard to the mass being estimated and the volume released, the 50-gallon release resulting in a mass of 2.76 kilograms in the model for 162-35 North Conduit Avenue, is that a hypothetical release for modeling purposes?
A. Which one are we referring to now?
Q. s6- --
A. Yes.
Q. -- 015 --
A. Right.
Q. -- 1990.
A. Right.
Q. Is the release of 50 gallons of gasoline resulting in a mass of 2.76 kilograms of MTBE in groundwater in the model, is that a hypothetical release for purposes of modeling?
A. Yes, it is.
Q. And with respect to the 500-gallon release in 1990 resulting in

Page 266

27.55 kilograms of MTBE, is that also a hypothetical release?
A. Yes, it is.
Q. With respect to the release that occurred in 1990 of 2,000 gallons at the station at 162-35 North Conduit Avenue resulting in 110.20 kilograms of MTBE in groundwater in the model, is that also a hypothetical release?
A. Yes, it is.
Q. Are there any discharges or releases which were simulated for the sources identified in Table 4 which are based on an actual, not a hypothetical, release?
A. Well, even though the volumes involved are not -- are prospective, for many of these sites we know there was a release and we know there was groundwater impact of -- with MTBE from that release. So I think they are more than hypothetical; it's -- the question is the mass.
Q. With respect to the

Page 267

release, the actual volume released, is there any evidence for any of the service stations that you have identified in Table 4 that there was actually a release of the specific volume that you've identified in the given year which you've specified for each site?
A. No.
Q. With respect to the mass projected as being present in groundwater for each of the sites identified in Table No. 4, is there site-specific data to confirm that there actually was that mass of MTBE in that year beneath that location?
A. No, there is not.
Q. With regard to the work that you performed in this case, did you at any point in time attempt to calculate the specific mass that may have been present beneath any of the service stations which you were reviewing for purposes of your opinions

Page 268

in this case?
A. Well, in the beginning of proceeding in this analysis we looked at the information that was available generally from sites within the capture -- Station 6 capture zone. And what we found was that the kinds of information we would need to estimate the mass was not available.
Q. And what kinds of information would you need to estimate the mass for release of gasoline including MTBE at a service station?
A. Well, there could be a number of different sources. For example, a person could witness a release and quantify it from observation. A person could -- if you -- if an investigation was done at the right time and to the right extent, then environmental data might be able to be used to estimate the mass loading from that same event. Those are two methods I can think of.

Page 269

Q. And with respect to the issue of quantifying release, were there any sites in the group of sites which you reviewed for which you had information pertaining to a volume release into the environment at any particular station?
A. Yes.
Q. And which station was that?
A. Well, the stations that have fixed numbers as opposed to 50, 500, 2,000, those volumes were typically reported release volumes in the file.
Q. And you are referring now to Table 4 and you are referring to the heading "Gasoline (gal)" where there is a run there with a specified number?
A. Correct.
Q. And, for example, can you identify for us any -- and I'm not being flip here, I'm just asking for your help, because there's -- I see a lot of 50, 500, and 2000. The other numbers you have been honest enough to say one

Page 286

did you produce to counsel to be produced to the defendants in this case all of the files with all of the different scenarios, including the ten-year and two-year degradations?
A. We produced all the files that we have, so -- but in order to generate the input for the model, sometimes you are varying numbers in the spreadsheet; but all those spreadsheets were provided.
Q. All the spreadsheets were input into ATRANS?
A. All the spreadsheets that we used were provided, right.
Q. And those include all the ones that have the degradation constants that you referred to, a ten-year and a two-year?
A. No. Well, you would vary those over -- you know, in different runs you would vary that number.
Q. And did you produce the output from all of those runs?

Page 287

A. We produced all those spreadsheets if that's what you mean.
Q. Did you produce the output from all of those runs?
A. I believe so. But as I said, I think we varied -- we varied inputs for various scenarios. And sometimes we did that in one spreadsheet, and we provided that spreadsheet.
Q. I understand the inputs. I'm talking about the other end --
A. Yeah.
Q. -- the outputs.
A. The outputs of whatever run we did are attached to that file, that's right.
Q. And as best you understand it, all the outputs have been provided that you have?
A. Yes, all the files we have have been provided to you.
Q. With respect to the files that you looked at, particularly those

Page 288

for Table 4, you have a 1988 spill at 177-90 South Conduit, that's s6-016. Do you know what grade of gasoline was reportedly spilled at that location in 1988?
A. No, I do not.
Q. Do you know whether it contained MTBE?
A. No, I do not.
Q. With respect to the spill at s6-022 in 1991, do you know what grade of gasoline was reportedly spilled at that location in 1991?
A. Ss6-002?
Q. S6-022.
A. 22.
Q. 161-51 Baisley Boulevard.
A. Okay. Now we're looking at 1991?
Q. Correct. And my question is, with respect to the release that occurred at 161-51 Baisley Boulevard, do you know in 1991 what grade of gasoline was spilled?

Page 289

A. No, I don't.
Q. Do you know whether the gasoline spilled at 161-51 Baisley Boulevard in 1991 contained MTBE?
A. No, I do not.
Q. With respect to the work that you did in this case, going back to the text of your report, in Analysis 1, looking at page 5, you looked at the available water quality data information for Station 6, and that data was used, as you indicate, to develop a snapshot. The snapshot was to represent the conditions in 2008; am I correct?
A. Right, 2004 and 2008.
Q. And the information as it was generated for 2008, that was the data that was used as input conditions for the transport model?
A. Well, we -- 2004 data from the table we examined earlier were used as input and then a model was run between 2004 and 2008. And then a couple of additional sites were added in

Page 290

2008.
Q. And the model that was run, we take the 2004 data --
A. Uh-huh.
Q. -- that's set forth in Table 2 and we run that in MT3D; am I correct?
A. That's correct.
Q. Then you added the data from the additional 2008 sources that you obtained, being s6-030 and s6-031; am I correct?
A. Correct.
Q. And with respect to those locations, you modeled the conditions to represent what the groundwater looked like in 2008; am I correct?
A. Correct.
Q. Now, when you did the MT3Dmodeling --
A. Yes.
Q. -- you generated, first of all, a 2004 groundwater condition; am I correct?

Page 291

A. Yes.
Q. Looking at Figure I think it's 3 -- yes, Figure 3 -- what program was used to contour the groundwater conditions depicted in Figure 3?
A. Well, it was done in ArcGIS.
Q. And in ArcGIS by whom?
A. By myself and by Mr. Tyczka.
Q. And the ArcGIS file that you use, it projected the concentrations of MTBE around areas where you have reported contamination; am I correct?
A. Well, we constructed that. We drew that manually in ArcGIS.
Q. With respect -- and you've answered my question. Let's take a source particularly, s6-002, right below the heading in Figure 3 of Grand Central Parkway. That particular site, according to your report, had an input value of 1,000 -- pardon me, 14,400 parts per billion of MTBE; am I correct?

Page 292

A. Yes.
Q. With respect to the depiction on Figure 3, how was the area of contamination in the vicinity of s6-002 actually depicted? How was it drawn? Was it drawn by hand? Was it generated by the computer?
A. It was primarily drawn by hand.
Q. Who draw it by hand?
A. Myself.
Q. And when you drew it by hand, what data did you have to illustrate the concentrations in proximity to s6-002 as illustrated on Figure 3?
A. Only the data that's shown on this map.
Q. With regard to the data shown on this map, so we're clear, there is in the vicinity of the triangle representing s6-002 an area of red or light red showing a concentration of MTBE above 10,000; am I correct?

Page 293

A. Yes.
Q. And in the area around that there would appear to be a tan area for concentrations of MTBE from 1,000 to 10,000 parts per billion; am I correct?
A. Correct.
Q. Did you at the time that you drew the plume in the vicinity of s6-002 have field data to confirm the presence of MTBE at any location other than the well with 14,400 parts per billion?
A. Not that was used to draw this contour, no.
Q. With respect to the contours that are depicted in and around s6-002, am I correct that that contour area representing contamination with MTBE in the aquifer was drawn with one data point?
A. It is from one data point, correct.
Q. Now, with regard to the area in the vicinity of Q-3810, which is

a light pink and it is a well which appears to be in Table 2 a U.S.G.S. well; am I correct --
A. What's the number on it?
Q. 3810, Dave.
A. Yes, I do see that.
Q. -- and with respect to that well, it has a concentration in 2004 of 0.2 parts per billion; am I correct?
A. That's what it says, yes.
Q. I picked it because it is the last one in that chart --
A. Okay.
Q. -- in Table 2 , it is a little easier to find.
With regard to the area in pink around Q-3810, that U.S.G.S. well, that is an area that was drawn by hand or was something that was projected by the computer?
A. I can't really make it out on this copy.
Q. Can I loan you mine --
A. Sure.

Q. -- for what it's worth? It may give you a little better relief.
A. Yes, that's correct.
Q. Okay. So with respect to the areas of contamination depicted on Figure 3, were any of them generated by a computer program?
A. No, they were not.
Q. Were all of them delineated using hand contouring?
A. Yes, they were.
Q. And with respect to the area of concentration around a particular well, did you have any other data in proximity to the single data point to show the presence of contamination in the groundwater in Layer No. 1?
A. No.
Q. With regard to areas where there are multiple sites, looking at the bottom of Figure 3 towards the southern extreme as you go towards JFK Airport, there are three service stations

illustrated: S6-020, S6-015, S6-016. For the area that is depicted, there is a shaded area that includes all of those three service station proximal sources; am I correct? And if you want to look at mine again, Dave, go right ahead.
A. That's correct.
Q. And with regard to those data points, that area was drafted and hand-contoured based on the individual and single data points at each of the service stations?
A. Correct.
Q. Did you look at any monitoring well data other than the individual monitoring wells identified in Table 2 and the concentrations for those wells to determine whether there was any contamination lying, for example, between S6-015 and S6-020 at the concentrations indicated in Figure 3?
A. No, we did not.
Q. With regard to the Figure 3

depiction, the areas that are depicted, they are areas of equal concentration in Layer 1 over the entire depth of Layer 1?
A. Correct.
Q. So the mass being calculated is the concentration indicated on Layer 3 for whatever the depth interval is for water in Layer 1?
A. I think I was with you to the last bit there.
Q. Okay. If, for example -- let's take easy one. Let's take Q-3810, which is a stand-alone, single point. If I want to figure out what mass of MTBE is in the vicinity of that U.S.G.S. well, I look at the concentration as illustrated on Figure 3 and then I would distribute that concentration equally in all of the cells in the model in that area for the entire thickness of Layer 1; am I correct?
A. That's true.
Q. And in order to calculate

Page 310

release, that release, according to the information you had, occurred when?
A. Well, there were two at that site. One was in 1989 and one was 1990.
Q. And with regard to those releases, do you know whether they ever extended off site?
A. I don't know.
Q. With respect to the work that you performed in this case for the service station marked s6-002, did you prior to contouring the area of contamination illustrated on Figure No. 3 look at the data for that site and determine if there actually was MTBE off site of the service station?
A. Well, we did look in general for that kind of information. And most sites we looked at there weren't sufficient data to really demonstrate that.
Q. With respect to the site s6-002, did you specifically look and

Page 311

see if there was off-site data to indicate that there was contamination in the form of MTBE in groundwater off the site?
A. Well, most of these -- I can't specifically say about s6-002. Most of these sites did not have considerable off-site information.
Q. When you contoured these areas of contamination, did you have the site remediation files available to you that were produced by the defendants in this case so you could look at the site data and contour the areas?
A. I don't know if we -- we had what was provided to us. I don't have that in front of me now.
Q. At the time that you contoured the areas depicted on Figure 3, did you specifically look at the file materials you had and the map that you were drawing on to develop the contoured areas that you depicted with hand contouring on Figure 3?

Page 312

A. We didn't use data from the kind of information you are talking about to construct these contours.
Q. The data that you used was a single data point from s6-002; am I correct?
A. Correct.
Q. And that single data point was then hand-contoured based on your professional judgment?
A. Yes.
Q. And with respect to each of the sites, service station sites, being the designation S6 and then a three-letter -- pardon me, three-number suffix, for each of those sites did you use one data point to contour the area of contamination in the aquifer?
A. These are based on a single point.
Q. And the single point was based on the maximum concentration?
A. That's correct.
Q. Did you at any point in

Page 313

time look at the data for any of the service stations and use any generally accepted methods to average the contamination across the site?
A. No, we did not.
Q. In your professional work have you done any analyses in which you employed generally accepted methods for spatial averaging at sites?
A. For groundwater data?
Q. Correct.
A. No.
Q. With respect to the work that you have performed professionally, have you ever used any kriging algorithms?
A. I have.
Q. And did you use any kriging algorithms in this case to average the concentration of observed conditions in groundwater at any of these sites?
A. No, we did not.
Q. With respect to your work, have you ever used polynomial equations